

IN THE CLAIMS

Please amend claims 32, 35, 36, and 62-64. Please cancel claims 2-5 and 14-25. The current status of the claims is reflected in the below listing of claims.

1. (Canceled)

Claims 2 - 5. (Canceled)

Claims 6 - 13. (Canceled)

Claims 14 - 25. (Canceled)

Claims 26 - 31. (Canceled)

32. (Currently amended) An adhesion promotion composition for enhancing adhesion between a copper conducting layer and a dielectric material during manufacture of a printed circuit board, the adhesion promotion composition comprising a corrosion inhibitor, an inorganic acid selected from the group consisting of sulfuric acid, nitric acid, or a combination thereof, an oxidizing agent, an anionic surfactant, and an alcohol which is effective to increase copper-loading in the composition, and the adhesion promotion composition being initially substantially free of transition metals having a tendency to destabilize the oxidizing agent.

33. (Previously presented) The adhesion promotion composition of claim 32 wherein the anionic surfactant is selected from the group consisting of polymeric, oligomeric, and monomeric alcohol derivatives.

34. (Previously presented) The adhesion promotion composition of claim 32 wherein the anionic surfactant selected from the group consisting of alcohol sulfates, sulfonates, and ethoxylates.

35. (Currently amended) An adhesion promotion composition for enhancing adhesion between a copper conducting layer and a dielectric material during manufacture of a printed circuit board, the adhesion promotion composition comprising a corrosion inhibitor, an inorganic acid selected from the group consisting of sulfuric acid, nitric acid, or a combination thereof, an oxidizing agent, dodecylbenzene sulfonic acid (DDBSA) as an anionic surfactant, and an alcohol which is effective to increase copper-loading in the composition, and the adhesion promotion composition being initially substantially free of transition metals having a tendency to destabilize the oxidizing agent.

36. (Currently amended) An adhesion promotion composition for enhancing adhesion between a copper conducting layer and a dielectric material during manufacture of a printed circuit board, the adhesion promotion composition comprising a corrosion inhibitor, an inorganic acid selected from the group consisting of sulfuric acid, nitric acid, or a combination thereof, an oxidizing agent, a nonionic surfactant, and an alcohol which is effective to increase copper-loading in the composition, and the adhesion promotion composition being initially substantially free of transition metals having a tendency to destabilize the oxidizing agent.

37. (Original) The adhesion promotion composition of claim 36 wherein the nonionic surfactant is an ethoxylated alcohol derivative.

38. (Original) The adhesion promotion composition of claim 37 wherein the nonionic surfactant is polyoxyethylene nonylphenol.

39. (Canceled)

40. (Previously presented) An adhesion promotion composition for enhancing adhesion between a copper conducting layer and a dielectric material during manufacture of a printed circuit board, the adhesion promotion composition comprising a corrosion inhibitor, an inorganic acid, an oxidizing agent, and an alcohol which is effective to increase copper-loading in the composition, and the adhesion promotion composition being initially substantially free of transition metals having a tendency to destabilize the oxidizing agent, wherein the inorganic acid is a mixture of sulfuric acid and nitric acid and constitutes at least about 30 wt% of the composition.

41. (Previously presented) The adhesion promotion composition of claim 40 further comprising an anionic surfactant and a nonionic surfactant; wherein the inorganic acid is said mixture of sulfuric acid and nitric acid and constitutes at least about 30 wt% of the composition; and wherein the alcohol is selected from the group consisting of monohydric alcohols, dihydric alcohols, trihydric alcohols, primary alcohols, secondary alcohols, and tertiary alcohols and constitutes between about 0.5 wt % and about 20 wt% of the composition.

42. (Original) The adhesion promotion composition of claim 41 wherein the copper-loading of the composition is characterized by less than about 0.1 volume % of Cu-containing sludge being formed at 120 hours under ambient conditions when the composition is loaded with between 40 and 50 g/liter Cu ions.

43. (Previously presented) An adhesion promotion composition for enhancing adhesion between a copper conducting layer and a dielectric material during manufacture of a printed circuit board, the adhesion promotion composition comprising a corrosion inhibitor, an inorganic acid, an oxidizing agent, and an alcohol which is effective to increase copper-loading in the composition, and the adhesion promotion composition being initially substantially free of transition metals having a tendency to destabilize the oxidizing agent, wherein the composition is substantially free of thiourea-based complexing agents, and the corrosion inhibitor is benzotriazole, the inorganic acid comprises sulfuric acid and nitric acid, the oxidizing agent is hydrogen peroxide, and the alcohol is triethylene glycol in the following proportions by weight percent:

0.5 to 8 wt% H₂O₂
16 to 25 wt% H₂SO₄
0.1 to 10 wt% HNO₃
0.1 to 2 wt% 1,2,3-benzotriazole
0.01 to 5 wt% triethylene glycol.

44. (Previously presented) The adhesion promotion composition of claim 43 wherein the composition further comprises the following:

0.05 to 2 wt% 2-ethyloxosulfonate
0.0001 to 2 wt% dodecylbenzene sulfonic acid
0.0001 to 2 wt% polyoxyethylene nonylphenol.

Claims 45 - 61. (Canceled)

62. (Currently amended) An adhesion promotion composition for enhancing adhesion between a copper conducting layer and a dielectric material during manufacture of a printed circuit board, the adhesion promotion composition comprising a corrosion inhibitor, an inorganic acid selected from the group consisting of sulfuric acid, nitric acid, or a combination thereof, an oxidizing agent, and dodecylbenzene sulfonic acid (DDBSA), and the adhesion promotion composition being initially substantially free of transition metals having a tendency to destabilize the oxidizing agent.

63. (Currently amended) An adhesion promotion composition for enhancing adhesion between a copper conducting layer and a dielectric material during manufacture of a printed circuit board, the adhesion promotion composition comprising a corrosion inhibitor, an inorganic acid selected from the group consisting of sulfuric acid, nitric acid, or a combination thereof, an oxidizing agent, and sodium 2-ethylhexyl sulfate, and the adhesion promotion composition being initially substantially free of transition metals having a tendency to destabilize the oxidizing agent.

64. (Currently amended) An adhesion promotion composition for enhancing adhesion between a copper conducting layer and a dielectric material by formation of an organometallic conversion

coating during manufacture of a printed circuit board, the adhesion promotion composition comprising a corrosion inhibitor, an inorganic acid selected from the group consisting of sulfuric acid, nitric acid, or a combination thereof, an oxidizing agent, and polyoxyethylene nonylphenol, and the adhesion promotion composition being initially substantially free of transition metals having a tendency to destabilize the oxidizing agent.